Non-R&D intangibles

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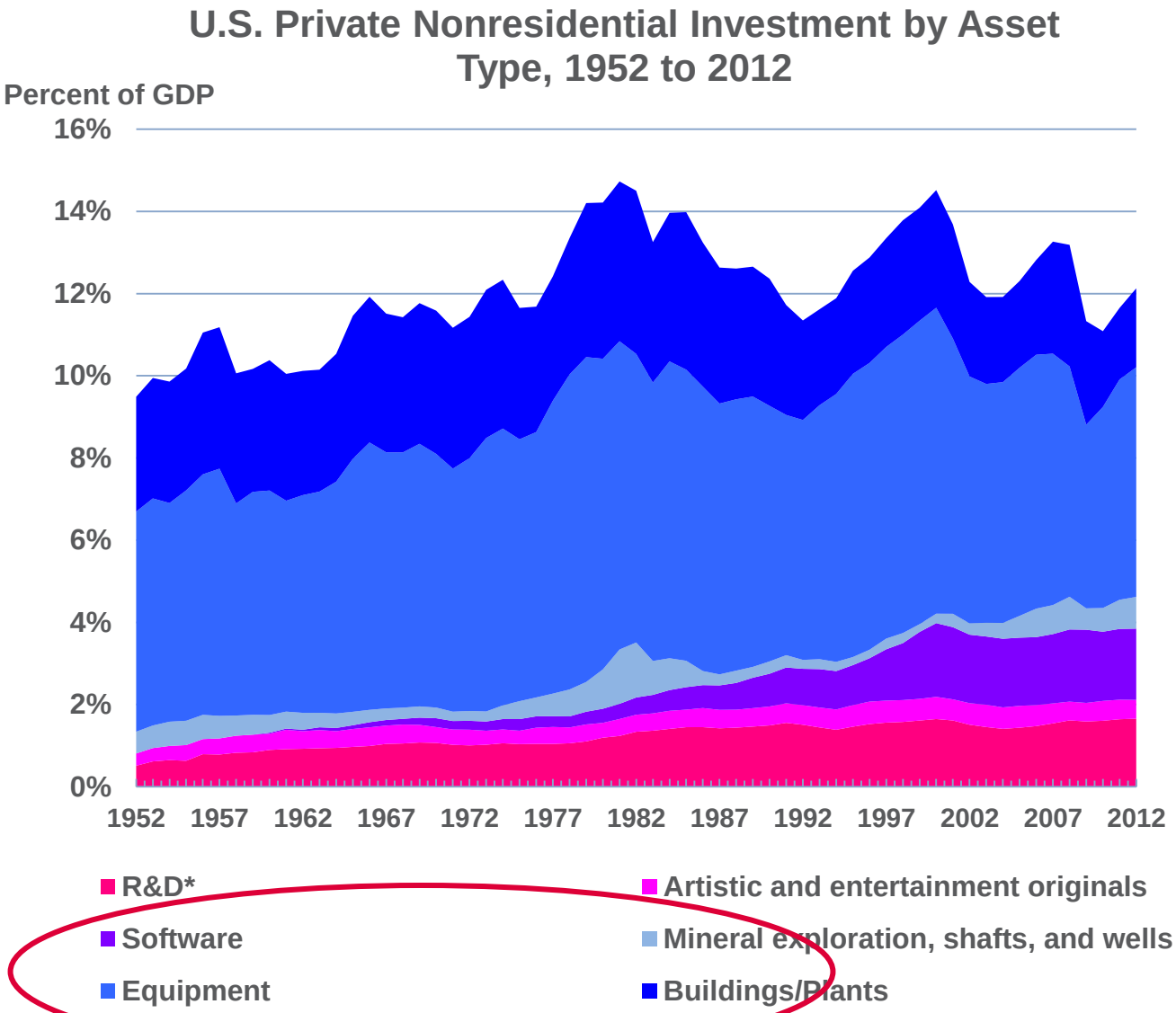
The Corrado-Hulten-Sichel framework

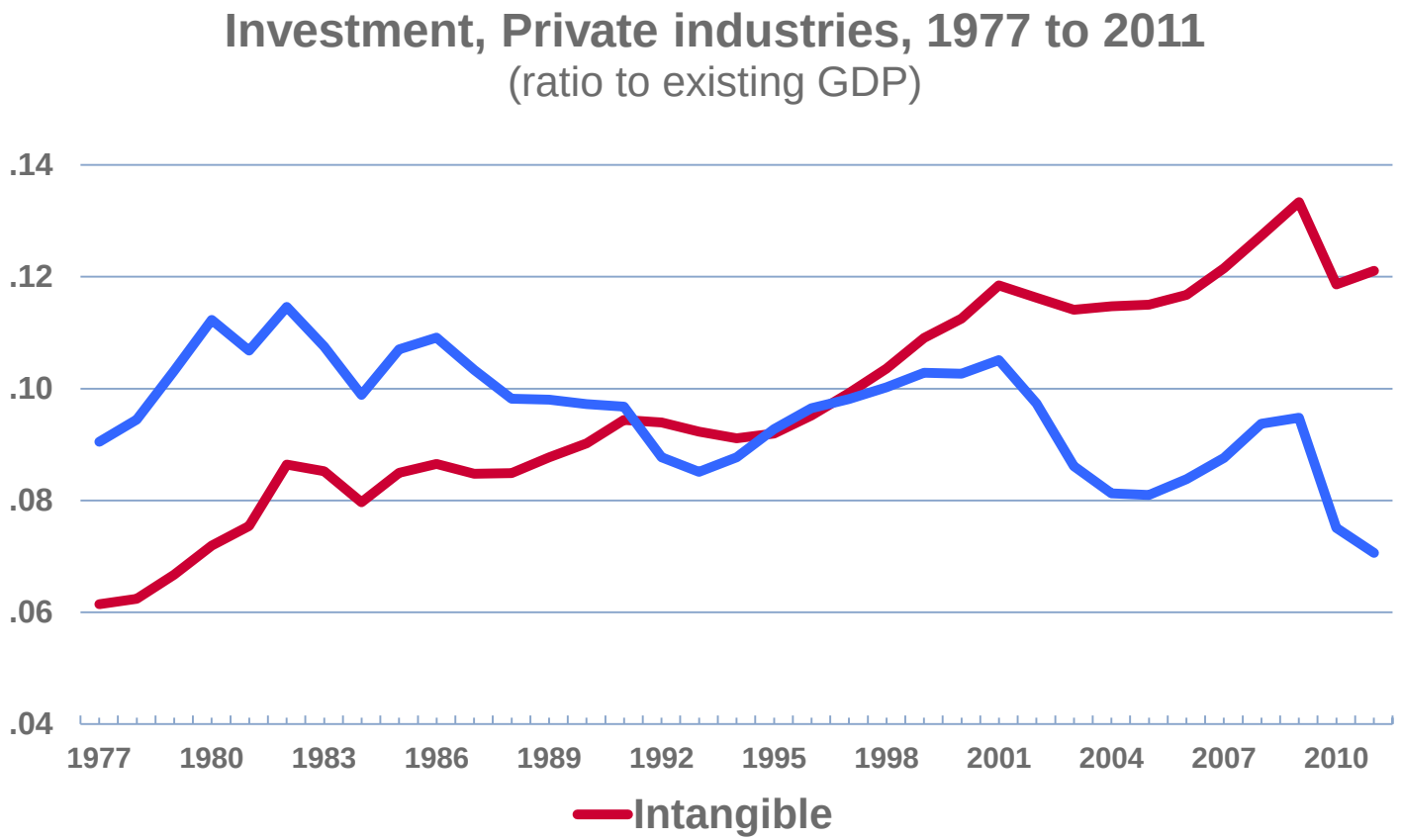
Broad category	Type of Investment
Computerized Information	• Software • Databases
Innovative Property	• R&D • Mineral exploration • Entertainment and artistic originals • Design and other new product development costs
Economic Competencies	• Branding (mkt. research and long-lived advertising) • Firm-specific human capital (training) • Organizational capital (business process investment)

IPP now a driver of private nonresidential investment



- Software R&D is included in software

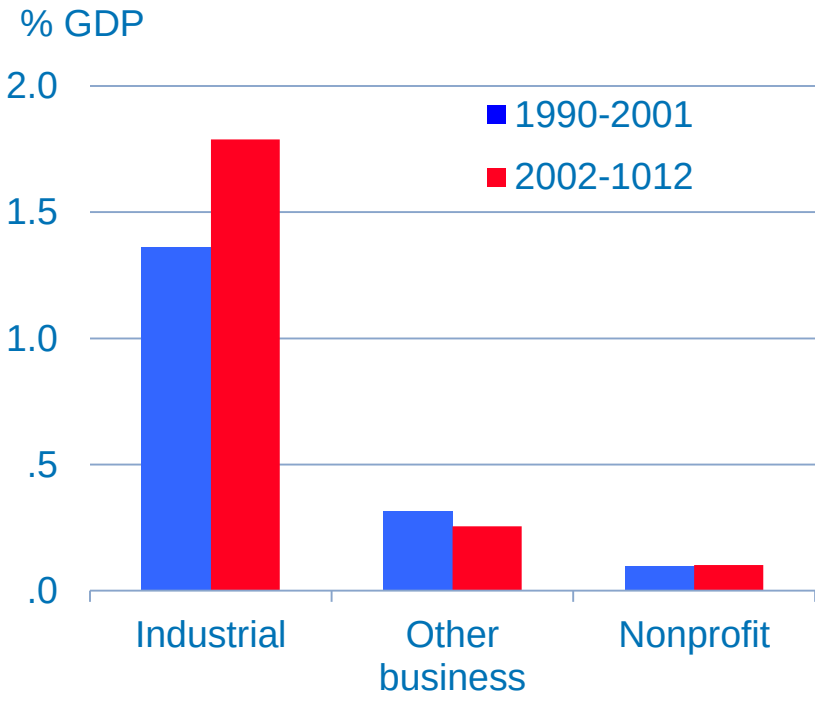
Very big indeed: the US rate of investment in intangibles overtook its investment in tangibles in the 1990s.



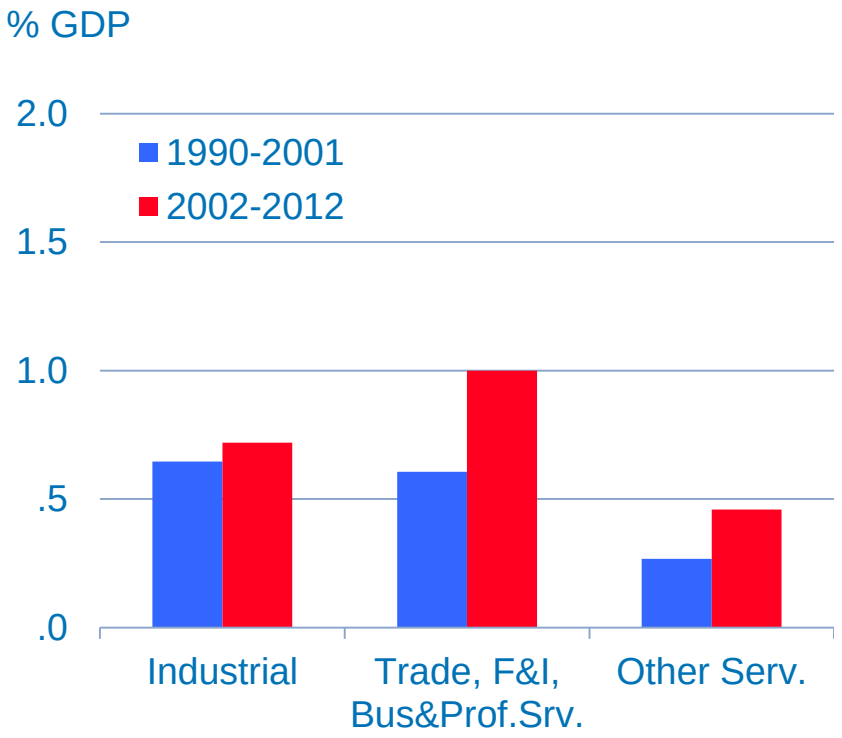
Excludes real estate/housing.

Because R&D is performed mainly in manufacturing, non-R&D intangibles are distributed more evenly across sectors

R&D and mineral exploration by major sector



Software investment by major industry group



Note—Industrial sector=Manufacturing, mining, and utilities.
Source---Authors' elaboration of data for private industries published by BEA

Implications

- Policy-makers need data on business investment, i.e., need to know firms in today's economy do not always invest by building factories and buying equipment or software
- The new investment series for IPP gets us in the right direction
  - ✓ The simple acknowledgement that R&D is investment opens the door to broader thinking about the role of innovation in modern economies (and the imperfect competition and market power that goes along with it)
- But the work is not done: there is much talk about debt-financed infrastructure, but we do not necessarily know what to build
  - ✓ e.g., how do we stimulate firm investments in workforce training if we don't know whether these investments are moving up, down, or sideways?
  - ✓ e.g., there is concern over Fed tapering and stringent bank capital rules, but allowing IP-backed collateral to be counted as tier 1 capital could offset some of that

Thank you – references for further reading

1. Corrado, Carol; Charles Hulten, and Dan Sichel (2009) “Intangible Capital and U.S. Economic Growth.” *Review of Income and Wealth* (September), 662-685.
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3. Corrado, Carol; and Charles Hulten (2010). “How do you Measure a ‘Technological’ Revolution?” *American Economic Review* (May), 99-104.
4. Corrado, Carol (2013) “Prescription for Productivity” Book Review of *Innovation Economics* by Atkinson and Ezell*. Issues in Science and Technology (Summer), 87-90.*
5. Corrado, Carol; Jonathan Haskel, Cecilia Jona-Lasinio, and Massimiliano Iommi (2013). “Innovation and Intangible Investment in Europe, Japan, and the United States” *Oxford Review of Economic Policy* 29:2 (Summer), 261-286.